

WHAT IS CLAIMED IS:

- a 1. A cap for use with a container neck, ~~of the type~~ having external means for detachably engaging said cap, said cap being shaped to fit over said neck and comprising
- 50 a top and a skirt depending from said top to fit outside said neck, ~~internal~~ means on skirt to engage said external means to hold said cap on said neck, said top being formed with a central well having a side wall and a bottom, a scoreline extending along said side wall and across said bottom, whereby a probe forced into said well splits said well along said scoreline so that said probe may enter said neck.
- 10 15/2. A cap according to claim 1 in which said side wall is conical.
- 16/3. 15 A cap according to claim 2 in which said bottom is round.
- 17/4. 16 A cap according to claim 3 in which said scoreline comprises a first stretch along said side wall, a second stretch across said bottom and a third stretch along said side wall, said stretches being joined end to end and lying in a common plane
- 15 substantially diametric relative to said well.
- 18/5. 17 A cap according to claim 4 which further comprises a short external rib on said bottom extending away from said scoreline whereby said probe when forced into said well first contacts said rib to initiate splitting said well.
- 2 6. A cap according to claim 1 made of resilient material whereby said well
- 20 is restored substantially to initial condition when said probe is withdrawn from said well to inhibit spillage from said container neck.
9. A cap according to claim 1 in which said external means comprises a first screw thread and said internal means comprises a second screw thread.

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<sup>10</sup>  
~~8.~~ A cap according to claim <sup>9</sup>~~7~~ wherein said neck <sup>has</sup> ~~is of the type having~~ a lip, a cylindrical portion below said lip formed with said external first screw thread and a crown bead below said cylindrical portion, said first screw thread having an end formed as a ramp of reduced thickness,

5                    said cap comprising a top and a skirt depending from said top, said skirt having a restricted diameter cylindrical upper stretch formed with said internal second screw thread shaped and positioned to mate with said first screw thread, an enlarged diameter stretch below said upper stretch for engaging said crown bead and an internal locking bead for engaging the underside of said crown bead, and at least one barrier  
10 extending downward from said second screw thread, said at least one barrier being horizontally aligned with said ramp when said cap is installed on said neck, whereby turning said cap relative to said neck in an unwinding direction causes said cap skirt to expand outward and said second screw thread to disengage from said first screw thread.

<sup>3</sup>  
15                    ~~9.~~ A cap according to claim 1 which further comprises a gasket on the underside of said top to seal said cap to said lip.

<sup>4</sup>  
~~10.~~ A cap according to claim <sup>4</sup>~~9~~ in which said gasket is of foam plastic.

11. A cap according to claim <sup>10</sup>~~8~~ which further comprises a plurality of downward extending second barriers angularly spaced apart and from said first-mentioned  
20 barrier and depending from said screw thread.

12. A cap according to claim 1 in which said skirt extends below said enlarged diameter stretch to a bottom edge, a tear tab extending below said bottom edge and a tear line formed in said skirt adjacent said tear tab extending up from said bottom edge to said upper stretch.

25                    13. A cap according to claim 12 in which said tear line is substantially vertically disposed and which further comprises a second tear line approximately parallel

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to said first-mentioned tear line disposed on the side of said tear tab opposite said first mentioned tear line extending up from said bottom edge to said upper stretch.

14. A cap according to claim 12 which further comprises a plurality of angularly spaced apart guide ribs extending downward from said internal locking bead,  
5 said guide ribs being triangular in vertical cross-section.

~~5~~  
~~15.~~ A cap according to claim 1 in which said cap is of a resilient plastic whereby said second screw thread expands to slip over said first screw thread when said cap is pushed axially downward on said neck without relative rotation of said cap and said neck.

- 10 ~~6~~  
~~16.~~ A cap according to claim ~~15~~<sup>5</sup> for use with a container having first orientation means, said cap further comprising second orientation means cooperable with said first orientation means whereby when said cap is pushed axially downward on said neck said first screw thread and said second screw thread are inter-engaged.

- ~~1-17~~  
~~17.~~ In combination, a container neck and a cap according to claim 1,  
15 said container neck having a lip, a cylindrical portion below said lip formed with said external first screw thread and a crown bead below said cylindrical portion, said first screw thread having an end formed as a ramp,  
said cap having at least one barrier extending substantially vertically downward relative to one of said screw threads into horizontal alignment with said ramp,  
20 said skirt being flexible, whereby turning said cap relative to said neck in an unwinding direction so long as said cap is intact causes said cap to expand outward and said screw threads to disengage from each other, and means to tear a portion of said skirt to release said cap from said neck.

- ~~20~~  
~~18.~~ The combination of claim ~~17~~<sup>19</sup> in which said at least one barrier is on said  
25 cap and extends downwardly from approximately 0° of angle of said second screw thread to approximately the elevation of 360° of angle of said second screw thread.

- ~~22~~  
~~19~~. The combination of claim ~~17~~<sup>19</sup> in which said side wall is conical.
- ~~23~~  
~~20~~. The combination of claim ~~19~~<sup>22</sup> in which said bottom is round.
- ~~24~~  
~~21~~. The combination of claim ~~20~~<sup>23</sup> in which said scoreline comprises a first stretch along said wall, a second stretch across said bottom and a third stretch along  
5 said side wall, said stretches forming a substantially continuous line in a plane substantially diametric relative to said well.
- ~~25~~  
~~22~~. The combination according to claim ~~21~~<sup>24</sup> which further comprises a short external rib on said bottom extending away from said second stretch.
- ~~21~~  
~~23~~. The combination according to claim ~~17~~<sup>19</sup> in which said cap is of resilient  
10 material whereby said well is restored substantially to initial condition when said probe is withdrawn from said well.
- ~~7~~  
~~24~~. In combination a container neck and a cap according to claim 1 in which said external means comprises a crown bead and said internal means comprises a locking bead positioned to engage under said crown bead to prevent removal of said cap from  
15 said neck when said cap is intact.
- ~~8~~  
~~25~~. The combination of claim ~~24~~<sup>7</sup> which further comprises means for removing a portion of said skirt containing said locking bead to prevent removal of said cap from said neck.